MQMS HIGHLIGHTS

A Report from the Medicare Quality Monitoring System

Heart Failure, 1992-2001

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Congestive heart failure (CHF)—the inability of the heart to pump enough blood to the body—is the leading cause of hospitalization among Medicare beneficiaries. CHF hospitalizations cost Medicare more than $4 billion in 2001. Research indicates that rates of CHF hospitalizations among Medicare beneficiaries have risen markedly since the 1980s[1] despite the fact that this is a chronic disease for which appropriate outpatient care can reduce hospitalizations. Better inpatient care might also reduce readmissions and mortality after hospitalization for CHF.

This study presents trends in CHF hospitalizations, readmissions, and mortality from 1992 through 2001 among Medicare fee-for-service (FFS) beneficiaries. Our results are based on an analysis of all Medicare claims for hospital discharges with CHF as the primary diagnosis. We calculated age-sex adjusted rates of discharges, readmissions, and mortality, and examined trends in rates over time and variation in rates across demographic groups.

RESULTS

Evidence of Improvement

CHF Hospitalizations Fell Slightly. The CHF hospitalization rate fell by 2 percent from 1992 to 2001. After peaking in 1997, rates fell by 6 percent by 2001 (Figure 1).

Mortality Rates Declined. Thirty-day mortality rates following hospitalization for CHF dropped steadily from 1992 to 2001, with a 14 percent reduction overall (Figure 2). The one-year mortality rate fell 9 percent over the period.

Opportunities for Improvement

Readmissions Rose. From 1992 through 2001, rates of 30-day readmission for CHF rose 6 percent (Figure 2). After holding steady for three years (1997-2000), rates increased by 4 percent from 2000 to 2001.

Disparities Exist. African Americans, those dually enrolled in Medicaid, and beneficiaries with ESRD were hospitalized and readmitted for heart failure at much higher rates than whites, nondual enrollees, and aged or disabled beneficiaries, respectively (Tables 1 and 2). Moreover, disparities appear to have increased for some groups over the period. From 1992 through 2001, hospitalization and readmission rates for African Americans, other minorities, and patients with ESRD rose more sharply than for their counterparts. However, these three groups had lower mortality rates following admission.[2]

Figure 1. CHF hospitalization rates, 1992-2001

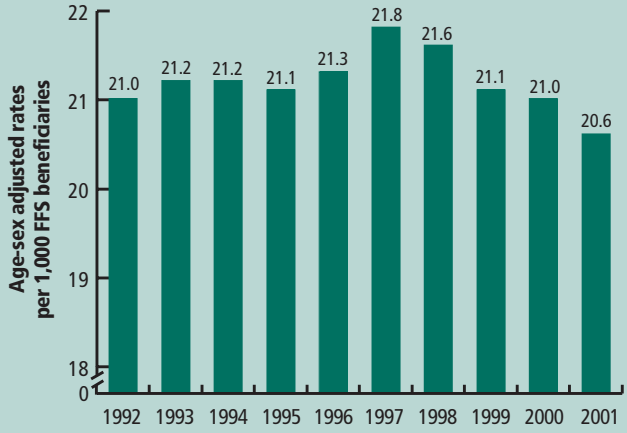

Figure 2. CHF readmissions and mortality, 1992-2001

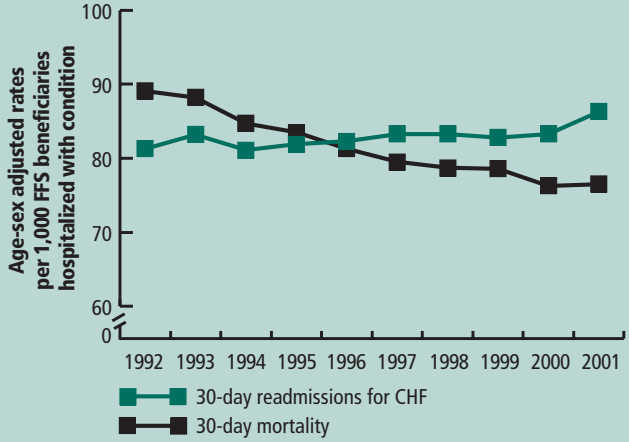

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Table 1. CHF hospitalization rates per 1,000 FFS Medicare beneficiaries, 1992-2001

Subgroup	1992	2001	% Change
Male	23	22	-5
Female	19	20	+2
White	20	19	-5
African American	31	34	+11
Other race	18	21	+17
Dually enrolled	37	39	+7
Not dually enrolled	19	18	-8
Aged	27	25	-7
Disabled	12	12	-1
ESRD	157	160	+2

NOTE: Rates are adjusted for differences in age and sex.

IMPLICATIONS

Despite the recent drop in CHF admission rates, there is still work to be done in reducing CHF-related admissions and deaths. Indeed, *Healthy People 2010* goals for heart failure admissions are roughly half the rates presented here.[3]

Meeting these goals means preventing CHF and treating it and associated risk factors. For Medicare beneficiaries who have developed CHF, appropriate outpatient care and disease management programs could reduce hospitalizations. Reducing race- and eligibility-related disparities in CHF hospitalizations means exploring the sources of disparities, such as differences in disease prevalence rates and differences in access to care and appropriate outpatient treatment.

More appropriate inpatient treatment could also reduce heart failure readmissions and mortality. For example, research shows and experts recommend that patients with CHF should receive ACE inhibitor drugs at discharge. But in the median state, ACE inhibitors were prescribed for only two-thirds of the eligible patients at discharge in 2000-2001, a decrease from the period 1998-1999.[4]

NOTES

[1]Kozak, L., M. Hall, and M. Owings. "Trends in Avoidable Hospitalizations, 1980-1998." *Health Affairs,* vol. 20, no. 2, 2001, p. 214-224.

[2]A recent study that adjusted for differences in health conditions, illness severity, and inpatient treatment produced similar results for African Americans. See Rathore, S.,et al. "Race, Quality of Care, and Outcomes of Elderly Patients Hospitalized with Heart Failure." *JAMA,* vol. 289, no. 19, May 2003, p. 2517-2524.

[3]*Healthy People 2010* goals are 6.5 hospitalizations/1,000 persons age 65-74; 13.5/1,000 persons age 75-84; and 26.5/1,000 persons age 85 and above. U.S. Department of Health and Human Services, Washington, DC: Government Printing Office, 2000.

[4]Jencks, S., E. Huff, and T. Cuerdon. "Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001." *JAMA,* vol. 289, no. 3, p. 305-312.

Table 2. Readmission and mortality rates per 1,000 FFS beneficiaries hospitalized for CHF (% change 1992-2001)

Subgroup	30-day CHF Readmission	30-day mortality	One-year mortality [a]
Male	91 (+ 4%)	88 (-12%)	342 (-10%)
Female	82 (+ 8%)	68 (-16%)	286 (- 8%)
White	85 (+ 2%)	81 (-14%)	315 (- 9%)
African American	91 (+20%)	56 (-14%)	280 (- 8%)
Other race	93 (+25%)	65 (-15%)	306 (-5 %)
Dually enrolled	98 (+ 9%)	74 (-11%)	326 (- 7%)
Not dually enrolled	81 (+ 3%)	78 (-15%)	304 (-10%)
Aged	91 (0%)	87 (-21%)	336 (-13%)
Disabled	92 (- 3%)	43 (-25%)	211 (-21%)
ESRD	113 (+16%)	75 (+ 3%)	448 (+ 2%)

[a] One-year mortality is from 2000.

NOTE: Rates are adjusted for differences in age and sex.

ABOUT MQMS

The Medicare Quality Monitoring System (MQMS) is a data collection, analysis, and dissemination system through which the Centers for Medicare & Medicaid Services (CMS) monitors the quality of care delivered to Medicare fee-for-service (FFS) beneficiaries. Launched by CMS in 2003 in response to growing public concern about patient safety, patient choice, and provider accountability, MQMS provides national- and state-level statistics on the trends and variations in FFS beneficiaries' use of health care, outcomes of that care, preventable hospitalizations, and patient safety. These MQMS measures of quality act as input for high-level policy making and program planning within CMS.

Specifically, MQMS quality measures include the following:

- Preventable hospitalizations
- Patient safety indicators
- Mortality and readmission rates, length of stay, and cost of hospitalizations for acute myocardial infarction, heart failure, and stroke
- Preventive services and rates of complications for diabetes
- Mortality and readmission rates following cancer- and cardiac-related high-risk surgical procedures

Most of the measures are based on 100 percent of hospital discharge data for FFS beneficiaries from 1992 through 2001. The diabetes measures are based on the 5% Standard Analytic File, and the patient safety measures are limited to 2000 and 2001. We adjusted the measures to a common distribution of age and sex but did not risk-adjust them beyond age and sex. MQMS statistics are descriptive. Results do not indicate the causes of the observed trends and cross-sectional variation.

CMS disseminates MQMS results on its website, www.cms.hhs.gov, in the form of a summary of key findings for each clinical area (MQMS Highlights), full-length reports (MQMS Reports), detailed tables, and technical documentation.

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